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IS 4900-1 to 3 (1984): Jute Carpet Backing Fabric [TXD 3: Jute and Jute Products]



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“Knowledge is such a treasure which cannot be stolen”

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Indian Standard

SPECIFICATION FOR
JUTE CARPET BACKING FABRIC

(First Revision)

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MANAK BHAVAN, 9 BAHADUR SHAH ZAFAR MARG
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Indian Standard

SPECIFICATION FOR JUTE CARPET BACKING FABRIC (First Revision)

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Indian Standard
SPECIFICATION FOR
JUTE CARPET BACKING FABRIC
(*First Revision*)

0. FOREWORD

0.1 This Indian Standard (First Revision) was adopted by the Indian Standards Institution on 15 December 1984, after the draft finalized by the Jute and Jute Products Sectional Committee had been approved by the Textile Division Council.

0.2 This standard, first published in 1969, has been revised to take cognizance of the experience gained and the developments that have taken place in the use of jute carpet backing fabrics. In this revision one variety of primary backing fabrics and two varieties of secondary backing fabrics have been incorporated. The breaking load values of warp and weft of primary backing fabrics have also been modified.

0.3 The revised standard is published in three parts as under:

Part 1 — gives general information and general requirements of jute carpet backing fabric;

Part 2 — covers the specific requirements of 5 varieties of primary backing fabrics of 237, 271, 305, 339 and 407 g/m²; and

Part 3 — covers specific requirements of two varieties of secondary backing fabric of 186 and 203 g/m². Jute carpet backing fabric of 237 g/m² is also sometimes used as secondary backing.

0.4 For the purpose of deciding whether a particular requirement of this standard is complied with, the final value, observed or calculated, expressing the result of a test, shall be rounded off in accordance with IS : 2-1960*. The number of significant places retained in the rounded off value should be the same as that of the specified value in this standard.

*Rules for rounding off numerical values (revised).

Indian Standard
SPECIFICATION FOR
JUTE CARPET BACKING FABRIC
PART 1 GENERAL
(*First Revision*)

1. SCOPE

1.1 This standard (Part 1) covers general requirements and information regarding terminology, packing and marking, sampling and inspection and criteria for conformity of the jute carpet backing fabric woven in both plain and sateen weaves.

2. TERMINOLOGY

2.0 For the purpose of this standard, the following definitions shall apply.

2.1 Lot — The quality of carpet backing fabric purporting to be of one definite type, width and quality, and packed in rolls of specified lengths delivered to one buyer against one despatch note.

2.2 Roll — The cylindrical rigid package containing one type of jute carpet backing fabric wrapped on suitable core (*see* IS : 7075-1983*) and covered with roll covering with outer layer stitched properly, in conformity with IS : 4744-1968†.

2.2.1 Joint-Roll — A full length roll made up of two pieces of carpet backing fabric joined together in such a way to enable smooth passage through the processing machinery.

NOTE — The joints should be indicated by flag at the side of the roll.

2.3 Contract Mass (Roll) — The mass as obtained from the specified length per roll, nominal width and mass per square metre of fabric.

2.4 Fabric Woven — A structure produced by interlacing two or more sets of yarns where the yarns pass each other essentially at right angles and one set of yarns is parallel to the fabric axis.

*Specification for cardboard tubes used as cores for jute fabric rolls (*first revision*).

†Specification for packaging of jute products in rolls.

2.4.1 Woven-Plain — The type of weave in a cloth in which each warp thread passes alternately over and under each weft thread.

2.4.2 Woven-Sateen — A fabric with a lustrous surface obtained by a sateen weave with lower warp sett and higher weft sett.

2.5 Fabric Backing

2.5.1 Primary Backing — The base fabric on which carpet face pile yarns are inserted, stitched or anchored to make a carpet.

2.5.2 Secondary Backing — The fabric laminated/bonded to the back side of a woven or tufted carpet pile floor covering forming an underlay.

2.6 Length of Roll — The distance from one end of a fabric to the other, measured parallel to the selvedge while the fabric is free from folds or wrinkles.

2.7 Width, Fabric — The distance from one selvedge to another measured perpendicular to the selvages while the fabric is free from folds or wrinkles.

2.8 Mass Fabric — Mass per unit area expressed in grams per square metre (ounces per square yard).

2.9 Breaking Load — The maximum load applied to a specimen in a tensile test carried to rupture.

2.10 Oil Content (Extractable Matter) — Non-fibrous oily or waxy material in or on the yarn, that can be removed by specific organic solvents. The matter extracted from jute backing includes added processing oils and natural fats and waxes.

2.11 Standard Atmosphere for Testing

2.11.1 Standard Temperature Atmosphere — Air having a relative humidity of 65 ± 2 percent and a temperature of $20 \pm 2^\circ\text{C}$.

2.11.2 Standard Tropical Atmosphere — Air having a relative humidity of 65 ± 2 percent and a temperature of $27 \pm 2^\circ\text{C}$.

NOTE — When testing at international level is involved, a standard temperature of $20 \pm 2^\circ\text{C}$, or by agreement $27 \pm 2^\circ\text{C}$ may be used.

2.12 Bow — The greatest distance parallel to the selvages, between a weft yarn and a straight line drawn between the points at which this yarn meets the selvages. The straight line connecting the selvages is perpendicular to both. If the line is not perpendicular to both selvages, the fabric contains bow and bias.

2.13 Bias (Skewness) — The distance parallel to and along the selvedge between the point at which a weft yarn meets one selvedge and a perpendicular from the point at which the same yarn meets the other selvedge.

2.14 Combined Bow and Bias — The greatest distance parallel to the selvedges between a weft yarn and a straight line drawn perpendicular from the point at which the same yarn meets the selvedge. The selvedge side from which the perpendicular is drawn is that which results in no intersection with the weft being measured.

2.15 Weft (Filling) Fall-Off — The difference between the perpendicular distance from any point on a weft yarn to a line perpendicular to the selvedges and the same measurement made 300 mm (12 in) further along the width.

3. GENERAL REQUIREMENTS

3.1 Jute carpet backing fabric shall be woven with jute yarn in plain or sateen weave. The fabric shall be of generally uniform construction. Its selvedge shall be firm, straight and may contain cotton threads.

3.2 Fabric Defects — The fabric shall be:

- a) free from mildew and oil stains; and
- b) reasonably free from weft bars, multiple broken threads, holes, smash, and floats.

3.2.1 A reference may be made to IS : 4125-1967* for details of these flaws.

4. PACKING AND MARKING

4.1 The jute carpet backing fabric shall be packed in rolls and rolls marked as laid down in IS : 4744-1968† or as specified in an agreement between the buyer and the seller. The length of roll shall be 'specified length \pm 5 percent' for 90 percent of the rolls in a lot (or contract). In the remaining 10 percent of the rolls in a lot (or contract) the length shall be 'specified length \pm 10 percent'.

4.1.1 The roll may also be marked with the ISI Certification Mark.

NOTE — The use of the ISI Certification Mark is governed by the provisions of the Indian Standards Institution (Certification Marks) Act and the Rules and Regulations made thereunder. The ISI Mark on products covered by an Indian Standard conveys the assurance that they have been produced to comply with the requirements of that standard under a well-defined system of inspection, testing and quality control which is devised and supervised by ISI and operated by the producer. ISI marked products are also continuously checked by ISI for conformity to that standard as a further safeguard. Details of conditions under which a licence for the use of the ISI Certification Mark may be granted to manufacturers or processors, may be obtained from the Indian Standards Institution.

*Glossary of terms pertaining to defects in fabrics.

†Specification for packaging of jute products in rolls.

5. SAMPLING AND INSPECTION

5.1 Unless otherwise agreed to between the buyer and the seller, the procedure for sampling shall be as given in Appendix A and the procedure for testing and inspection as given in Appendix B.

6. CRITERIA FOR CONFORMITY

6.1 The lot shall be considered as conforming to the requirements of the standard, if the following conditions are satisfied on following Appendices A and B:

- a) The measured length of each roll under test is within specified (marked) length ± 5 percent;
- b) The average oil content (extractable matter) percent of the sample under test does not exceed the specified percentage;
- c) The average warp way and weft way breaking load values are not less than the corresponding breaking load values specified;
- d) The average mass* per square metre and ends and picks per decimetre of the rolls under test are in accordance with the requirements specified;
- e) The average bow, bias, combined bow and bias and weft fall-off of the rolls under test are in accordance with the requirements specified; and
- f) The average width of each of the rolls under test is in accordance with the requirement specified.

A P P E N D I X A

(*Clauses 5.1 and 6.1*)

SAMPLING

A-0. SAMPLING PROCEDURE

A-0.1 The following minimum number of rolls and samples shall be taken at random from the lot and subjected to corresponding tests (*see Appendix B*).

A-1. TEST SAMPLE

A-1.1 For assessing the conformity of the rolls to the requirements of this standard, the number of rolls to be selected from the lot shall be in

*On roll mass basis.

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accordance with the following table:

<i>No. of Rolls in the Lot</i>	<i>No. of Rolls to be Drawn and Opened for Inspection</i>
1 to 20	1
21 to 50	2
51 to 100	3
100 to 200	4
201 and above	4 + 1 for every 100 rolls or part thereof above 200 rolls

A-1.2 From the rolls selected as above, the test sample shall be drawn as follows:

<i>Test</i>	<i>Test Sample</i>
Ends and picks	All the rolls selected as in A-1.1
Width	
Bow, bias, combined bow and bias	
Mass per square metre	
Breaking load	
Length per roll	
Tare mass (packing materials and core)	One roll
Oil content	

APPENDIX B

(*Clauses 5.1, 6.1 and A-0.1*)

METHODS OF TEST AND INSPECTION

B-1. Tests may be carried out in prevailing atmospheric conditions with relative humidity varying from 40 to 90 percent.

B-1.1 Tests by buyers may be carried out in standard tropical atmosphere (*see 2.11.2*) or standard temperate atmosphere (*see 2.11.1*) as agreed to between the buyer and the seller. Prior to tests for the determination of ends and picks, breaking load and oil content, the test specimens shall be conditioned to moisture equilibrium in the standard atmosphere. It may be assumed that moisture equilibrium has been reached, when, after free exposure of the specimen to air in motion the change in mass of the specimen at successive intervals of not less than 4 hours does not exceed 0.1 percent of the specimen mass.

B-2. LENGTH

B-2.1 Scope — This method for the measurement of fabric length is applicable to rolls of jute backing. The following three approved methods of measuring length are:

- a) Hand method,
- b) Drum method, and
- c) Clock method.

B-2.2 The choice of the method of measurement in determining the length of roll of fabric shall be agreed upon by the parties concerned.

B-2.3 Summary of Methods — The length of a roll of jute backing fabric is measured from one end of the roll to the other, using a graduated measuring device.

B-2.4 Uses and Significance

B-2.4.1 Jute backing fabric is furnished in rolls of length as agreed upon by the manufacturer and consumer. The length of roll should be a multiple of the length of rolls of carpet made from the roll of jute backing. Deviation from the stipulated length creates economic losses for the carpet manufacturer.

B-2.4.2 The hand method is the only method by which the length of the roll of jute backing fabric may be measured free from tension. This method is the reference method to which all other methods shall be compared for the establishment of their accuracy.

B-2.4.3 The drum and the clock methods may be used for measuring the length of jute backing fabric, provided the accuracy of each method is such that no discrepancy greater than 0.5 percent exists between the results of these methods and length as measured by the hand method.

B-2.5 Apparatus

B-2.5.1 Racks and Mandrels — For unwinding the roll of fabric.

B-2.5.2 Flat Surface — At least 3 m (3 yd) long, and at least 150 mm (6 in) wider than the width of fabric to be measured.

B-2.5.3 Steel Measuring Tape — Accurate within 0.1 percent at length over 1 m (36 in).

B-2.5.4 Measuring Drum with Tensioning Devices — Length and drum shall be at least 150 mm (6 in) more than the width of the cloth to be measured. The periphery shall be accurately known within 0.1 percent. The drum shall be covered with fabric or cork, and the area of contact sufficient to prevent slippage. It shall be motor driven and the contact controlled by one or more free-running jockey rolls set close to but not touching the drum.

B-2.5.5 Measuring Clock — Which can be attached to operating machinery. A device consisting of a pair of wheels mounted 75 to 100 mm (3 to 4 in) apart on a free-running common axle which is connected to a counting mechanism graduated to read in metres and decimetres (yards and deciyards). The surfaces of the wheels are about 12 mm (0.5 in) wide and covered with cork, or other friction materials, ground to a circumference known accurately within 0.1 percent. The length of fabric in a roll is read directly on the counter.

B-2.6 Calibration of Apparatus

B-2.6.1 Measuring Tape

B-2.6.2 Measurement of Measuring Drum Periphery — Pass a ribbon of light weight paper, about 12 mm (0.5 in) wide, or a flexible fine wire around the drum so that the paper or wire contacts the drum at all points of periphery. Cut the wire or paper at the overlap. Measure the paper ribbon or wire while free from tension on the flat surface (see **B-2.5.2**) with the help of tape (see **B-2.5.3**) and record the length. Make three measurements of the periphery, one at a point approximately equidistant from the ends of the drum and one 300 mm (12 in) from each edge. Average the three measurements and use this value as the drum periphery.

B-2.6.3 Calibration of Measuring Clock — Run the clock on the surface of a drum of known circumference (see **B-2.5.4**) for a convenient number of revolutions. Compare the length read from the clock with the length computed from the drum circumference and number of revolutions. The difference between the two values is the calibration error.

B-2.7 Procedure

B-2.7.1 Hand Method — Lay out the fabric flat, without tension, on a horizontal surface at least 3 m (3 yd) long. Measure the length parallel to the selvages using measuring tape (see **B-2.5.3**) using pins as marks. Lay out successive lengths at least 3 m (3 yd) long and insert pins. Total the lengths to get total fabric length to the nearest decimetre (deciyard).

B-2.7.2 Drum Method — Run the roll of fabric over a measuring drum with sufficient tension to keep the fabric running true and flat without slippage. Read the length to the nearest decimetre (deciyard) from the dial or counter geared to the drum. Adjust the observed length for any calibration error (see **B-2.6.3**).

B-2.7.3 Clock Method — Mount the device (see **B-2.5.5**) on any machine designed to handle continuous lengths of cloth in such a way that the moving fabric will turn the measuring wheels. Read the length

to the nearest decimetre (deciyard) directly from the counter. Adjust the observed length for any calibration errors (*see B-2.6.3*). This length represents the length under whatever tension prevailed while the fabric was running.

B-2.8 Report — Report the following information:

- a) The method used to measure length,
- b) The fabric length in metres (yards) to the nearest decimetre (deciyard), and
- c) The atmospheric conditions during testing if the conditions were different from the standard atmosphere for testing.

B-3. WIDTH

B-3.1 Scope

B-3.1.1 This method for the measurement of fabric width is applicable to rolls of fabric or to a sample removed from roll.

B-3.1.2 The choice of the method of measurement in determining the width of jute backing fabric shall be as agreed to between the buyer and the seller.

B-3.2 Summary of Methods — The width of fabric is measured directly using a steel tape (*see B-2.5.3*) graduated in millimetres (and also in 1/32 inch divisions). Width measurements include the selvages.

B-3.3 Uses and Significance

B-3.3.1 Jute backing fabric is sold in widths agreed upon by the manufacturer and consumer. Significant departure from specified widths creates economic losses for the carpet manufacturer.

B-3.3.2 Following three procedures are provided for measuring the width of jute backing fabric:

- a) Measurement on a roll free from tension,
- b) Measurement on a roll at running tension, and
- c) Measurement of a full width sample cut from a roll.

NOTE — Measurements made on a roll free from tension may not be identical with measurements made on a roll under tension.

B-3.4 Apparatus — Racks, mandrels, flat surface and measuring tape (*see B-2.5.1, B-2.5.2 and B-2.5.3*).

B-3.5 Procedure

B-3.5.1 For Roll Free from Tension — Measure the width on a smooth flat surface with the fabric laid out flat without tension in any direction. Use a tape as described in **B-2.5.3**. Measure distances perpendicular to the selvages to the nearest 3 mm (one-eighth inch). Repeat the measurements in at least 5 places along the roll from 24 to 50 m (25 to 50 yd) apart. Make no measurement within 10 m (10 yd) from the end of a roll.

NOTE — Perpendicularity of tape to selvage is important. In a fabric with a width of 152 cm (60 in), a deviation of 4° will produce an error of 3 mm (one-eighth inch).

B-3.5.2 For Roll Running Under Tension — When agreed upon by the parties concerned, determine the width at the upwind of the tufting machine or at a rolling up machine. Make measurements of width from 25 to 50 m (25 to 50 yd) apart as described in **B-3.5.1**. Make no measurement within 1 m (1 yd) from the end of a roll.

B-3.5.3 For Sample Removed from a Roll

B-3.5.3.1 Cut the sample to be measured from a roll, full width and at least 1.5 m (1.5 yd) in length. Take the sample not less than 1 m (1 yd) from the end of the roll.

B-3.5.3.2 Make 5 or more measurements on the sample following the procedure described in **B-3.5.1**. Do not make measurements closer than 150 mm (6 in) from the cut ends.

B-3.6 Calculation — Calculate the average of the width measurements made on the roll or the sample cut from a roll to the nearest 3 mm (one-eighth inch).

B-3.7 Report — Report the following information:

- a) The method used to measure width, if rolls were used;
- b) The average of the measurements made on the roll or the sample to the nearest 3 mm (one-eighth inch); and
- c) The number of measurements used in calculating the average.

B-4. ENDS AND PICKS

B-4.1 Count the number of warp threads (warp) and weft threads (weft) per 250 mm (10 in) in accordance with IS : 1963-1981*.

*Methods for determination of threads per unit length in woven fabrics (second revision).

B-4.2 Uses and Significance — The number of ends and picks in a jute backing fabric affects the surface appearance of a carpet. Therefore, knowledge of the ends and picks per unit length is important to the carpet manufacturer.

B-5. MASS

B-5.1 Carry out the test as detailed in IS : 2387-1969*.

B-5.2 Uses and Significance

B-5.2.1 Mass of fabric in relation to specified mass is a measure of value received for the cost and is indicative of satisfactory construction. Hence, fabric mass is of importance to both buyers and sellers of jute backing.

B-5.2.2 The mass determined from a roll is the mass of the unconditioned fabric. If there is a dispute on the mass of fabric between the manufacturer and the purchaser, the roll shall then be conditioned in the standard atmosphere prior to weighing. Mass determined from a roll includes selvages.

B-6. BREAKING LOAD

B-6.1 Carry out the test as detailed in IS : 1969-1968†.

B-6.2 Uses and Significance

B-6.2.1 The breaking load of the jute backing fabric is measure of its ability to withstand the forces imparted to the pile floor covering during wall-to-wall installation and to withstand the loads imposed by heavy traffic in public installation of carpets.

B-6.2.2 Pendulum-type constant-rate-of-traverse testers operated at 300 mm/min (12 in/min) are specified because of their common use in the industry, but the use of constant-rate-of-elongation type instruments or other instruments with lower inertia errors may be used by mutual agreement between the buyer and the seller.

B-7. OIL CONTENT

B-7.1 Carry out the test as detailed in IS : 2969-1974‡.

*Methods for determination of weight of jute fabrics (*first revision*).

†Method for determination of breaking load and elongation at break of woven textile fabrics (*first revision*).

‡Method for determination of oil content of jute yarn and fabrics (*first revision*).

B-7.2 Uses and Significance — Oil is added to jute fibre to facilitate spinning of yarn used in backing fabric. The added oil may migrate into the pile of a floor covering depending on the nature of the finish on the jute yarn, pile fibre content of the floor covering, surface configuration of the pile yarns, conditions of use of the floor covering, and other factors. It has been found that if extractable matter in conventional jute yarn exceeds 2 percent, the migration of oil into the pile yarn will result in a visible increase in rate of soiling of the floor covering if the pile fibre is cotton or rayon. Consequently, a knowledge of the amount of extractable matter in jute backing fabric is important to both manufacturer and purchaser.

B-8. WEFT DISTORTION (BOW, BIAS, COMBINED BOW AND BIAS, AND WEFT FALL-OFF)

B-8.1 Scope — This method covers the measurement of weft distortion in jute backing fabric. It is applicable to all woven jute backing fabrics.

B-8.2 Summary of Method

B-8.2.1 Weft distortion is classified into four types: bow, bias, combined bow and skewness, and weft fall-off. There are two conditions of measurement (a) unrolling a portion of the roll, laying it flat without tension on a horizontal surface and making measurements, or (b) by measurement on the roll at the back of the rolling machine. This method is most suitable for the backing manufacturer.

B-8.2.2 A reference line perpendicular to the selvages is drawn on the fabric. The distortion of a weft yarn is measured in relation to the reference line.

B-8.3 Significance — Weft distortion in jute backing may result in distortion of the pattern of the pile surface tufted into it.

B-8.4 Conditioning — The roll need not be conditioned or preconditioned for measurement of filling distortion.

B-8.5 Apparatus

B-8.5.1 Racks and mandrels for unwinding the roll of fabric.

B-8.5.2 Flat surface at least 3 m (3 yd) long, and at least 150 mm (6 in) wider than the fabric to be measured.

B-8.5.3 Measuring Tape or Line — Long enough so that a perpendicular can be dropped from a point on one selvage to the opposite point (plumb lines).

B-8.6 Procedure

B-8.6.1 *Measurement on a Flat Surface*

B-8.6.1.1 Mount the roll to be measured on a mandrel and racks. Rotate the roll without pulling on the fabric. Gently lay out 3 m (3 yd) of cloth on a smooth horizontal surface without tension in any direction.

B-8.6.1.2 Trace one weft thread across the full width using a soft pencil or other suitable marker.

B-8.6.1.3 Measure bow by drawing a line AC (*see* Fig. 1A) between the points of intersection of the marked filling thread and the selvages. This line must be perpendicular to each selvedge. Assume bow of a pick corresponds to the curved line ABC of Fig. 1A. Point B is the greatest distance of filling pick ABC from the line AC . Draw a perpendicular from point B to the line AC intersecting it at D . Measure the distance BD to the nearest 2.5 mm (0.1 in).

B-8.6.1.4 Measure bias by tracing the position of one pick as directed in **B-8.6.1.2**. Assume that this position corresponds to the line AC in Fig. 1B. Draw a line perpendicular to the selvedge across the fabric from the point C , where the marked pick meets one selvedge, meeting the other shown in Fig. 1B, to the nearest 2.5 mm (0.1 in).

B-8.6.1.5 Measure combined bow and bias by tracing the position of one pick, as directed in **B-8.6.1.2**. Assume that this position corresponds to the line ABC in Fig. 1C. At C , where the pick meets the selvedge, draw a perpendicular across the fabric meeting the opposite selvedge at point D . Point B is the greatest distance of the pick ABC from the line DC . Draw a perpendicular from point B to the line DC . Measure the distance BE between point B and the intersection E , of the perpendicular and line DC to the nearest 2.5 mm (0.1 in).

B-8.6.1.6 Measure weft fall-off on a selected filling yarn AC (*see* Fig. 1D). Draw a reference line (the reference line may be drawn using a chalked string) perpendicular to the selvages. At a point B on the selected weft yarn, draw a perpendicular to the reference line. Measure the distance along the perpendicular from the point to the reference line to the nearest 2.5 mm (0.1 in). From the point of intersection E measure 300 mm (12 in) along the reference line. At the point E erect a perpendicular to the reference line such that it intersects the selected weft yarn. Measure the distance along the perpendicular between the reference line and the selected weft. The difference between the two measurements is the weft fall-off.

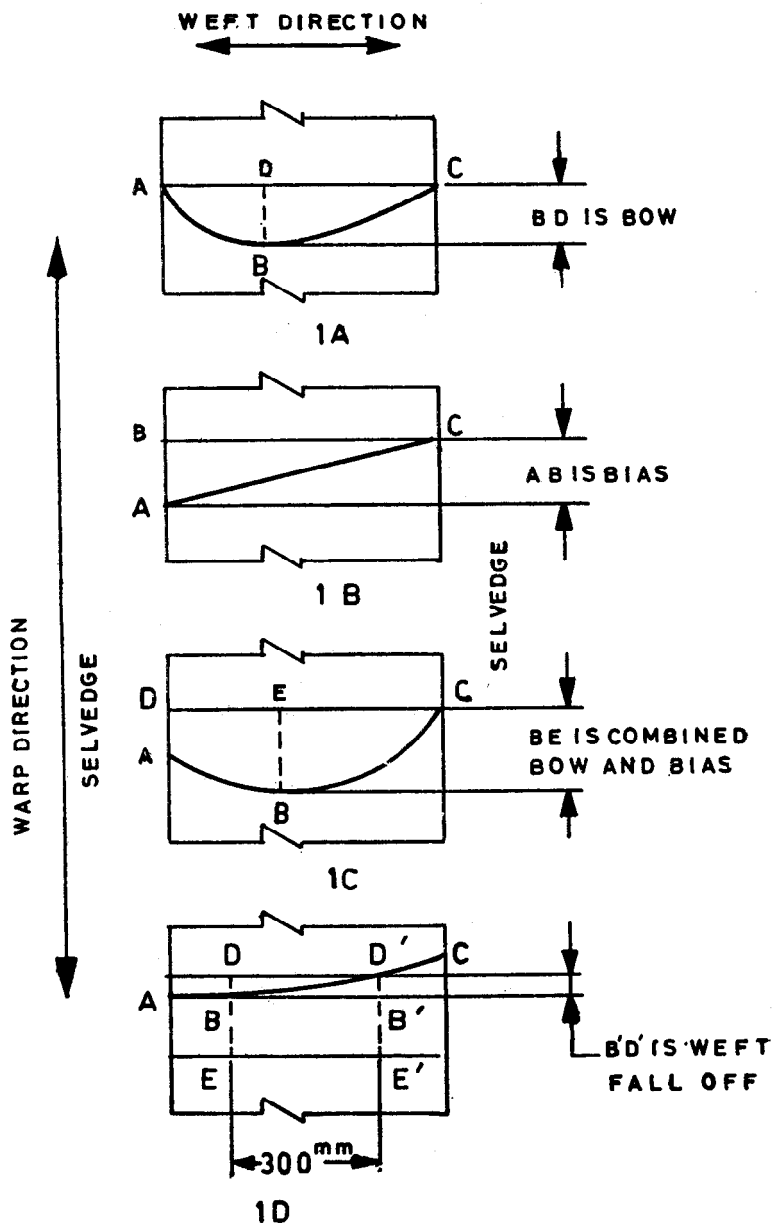


FIG. 1 DETERMINATION OF BOW AND BIAS

B-8.6.2 Measurement on a Roll

B-8.6.2.1 Mount the roll to be measured at the back of the rolling machine and measure bow, bias, combined bow and bias and falling fall-off on the roll.

B-8.6.2.2 To determine the reference line from which distortions of the weft are measured, drop plumb lines at both ends of the roll to the axis of the roll. Using a soft pencil, trace a line across the roll between the two plumb lines.

B-8.6.2.3 Make determinations of bow, bias, combined bow and bias and weft fall-off described in **B-8.6.1.3**, **B-8.6.1.4**, **B-8.6.1.5** and **B-8.6.1.6**. In doing so, the weft yarn selected for measurement shall for bow (**B-8.6.1.3**), intersect the reference line at both selvages; for bias and combined bow and bias intersect the reference line at one selvedge only.

B-8.6.3 Measurement should be made at five different places with a minimum distance of 27 m (30 yd) between two adjacent readings along the length of the fabric.

B-8.7 Calculation of Results

B-8.7.1 If the weft distortion at any point of measurement is not on the same side of reference line, measure weft distortion at both the sides of reference line separately and add them to have the average value.

B-8.7.2 Compute the average of the five measurements of weft distortion to the nearest 2.5 mm (0.1 in).

B-8.8 Report — Report the following information:

- a) The method of measurement, that is, on a flat surface or on a roll;
- b) The pattern of weft distortion observed at each measurement;
- c) The average value as obtained in **B-8.7.2**.

Indian Standard
**SPECIFICATION FOR
JUTE CARPET BACKING FABRIC**
PART 2 237, 271, 305, 339 AND 407 g/m²
(First Revision)

1. SCOPE

1.1 This standard (Part 2) prescribes constructional details and other requirements of the following varieties of plain or sateen woven jute carpet backing fabric of such widths as agreed to between the buyer and the seller:

237 g/m² (7 oz/yd²),
271 g/m² (8 oz/yd²),
305 g/m² (9 oz/yd²),
339 g/m² (10 oz/yd²), and
407 g/m² (12 oz/yd²).

2. SPECIFIC REQUIREMENTS

2.1 The jute carpet backing fabric shall conform to the requirements laid down in Table 1.

3. OTHER REQUIREMENTS

3.1 In respect of the requirements not specified here, requirements given in Part 1 of this standard shall apply.

TABLE 1 REQUIREMENTS OF PRIMARY JUTE CARPET BACKING FABRIC
(Clause 2.1)

Sl. No.	CHARACTERISTIC	REQUIREMENT					METHOD OF TEST [see IS : 4900 (PART 1)]
		237	271	305	339	407	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
i)	Mass, g/m ² (oz/yd ²) based on roll mass	237(7)	271(8)	305(9)	339(10)	407(12)	B-5
	Tolerance } g (± 5 percent) (oz)	± 12 (± 0.35)	± 14 (± 0.4)	± 15 (± 0.45)	± 17 (± 0.5)	± 20 (± 0.6)	
ii)	Ends/dm (warp yarns/in)	51(13)	55(14)	59(15)	59(15)	71(18)	B-4
	Tolerance	± 1.5 percent for all varieties					
iii)	Picks/dm (filling yarns/in)	39(10)	47(12)	51(13)	51(13)	59(15)	B-4
	Tolerance	± 3 percent for all varieties					
iv)	Width (average)	As agreed					B-3
	Tolerance	+ 1.5 percent (within and between rolls) - 0.0 (for all varieties)					
v)	Breaking load [grab method 2.5 × 7.5 cm (1 × 3 in)] kgf (lb) : Min, Average						B-6
	Warpway	35(78)	39(85)	45(100)	46(102)	61(135)	
	Weftway	22(48)	32(70)	34(75)	41(90)	50(110)	
vi)	Length	Marked length ± 1 percent					B-2
vii)	Oil content (extractable matter)	2.0 percent, Max					B-7
viii)	Weft distortion bow, bias, combined bow and bias, average, Max						
	a) Up to and including 4 m backing width	75 mm (3 in)					See Note
	b) Above 4 m backing width	100 mm (4 in)					
	Tolerance (weft fall-off) [see Fig. 1 D in B-8]	40 mm (1.5 in)					See Note

NOTE — No individual reading shall exceed 125 mm (5 in).

Indian Standard
**SPECIFICATION FOR
JUTE CARPET BACKING FABRIC**
PART 3 186 AND 203 g/m²
(First Revision)

1. SCOPE

1.1 This standard (Part 3) prescribes constructional details and other requirements of the following varieties of plain or sateen woven jute carpet backing fabrics of such widths as agreed to between the buyer and the seller:

186 g/m² (5.5 oz/yd²), and 203 g/m² (6 oz/yd²).

2. SPECIFIC REQUIREMENTS

2.1 The jute carpet backing fabrics shall conform to the requirements laid down in Table 1.

3. OTHER REQUIREMENTS

3.1 In respect of the requirements not specified here, requirements given in Part 1 of this standard shall apply.

INTERNATIONAL SYSTEM OF UNITS (SI UNITS)

Base Units

QUANTITY	UNIT	SYMBOL
Length	metre	m
Mass	kilogram	kg
Time	second	s
Electric current	ampere	A
Thermodynamic temperature	kelvin	K
Luminous intensity	candela	cd
Amount of substance	mole	mol

Supplementary Units

QUANTITY	UNIT	SYMBOL
Plane angle	radian	rad
Solid angle	steradian	sr

Derived Units

QUANTITY	UNIT	SYMBOL	DEFINITION
Force	newton	N	1 N = 1 kg.m/s ²
Energy	joule	J	1 J = 1 N.m
Power	watt	W	1 W = 1 J/s
Flux	weber	Wb	1 Wb = 1 V.s
Flux density	tesla	T	1 T = 1 Wb/m ²
Frequency	hertz	Hz	1 Hz = 1 c/s (s ⁻¹)
Electric conductance	siemens	S	1 S = 1 A/V
Electromotive force	volt	V	1 V = 1 W/A
Pressure, stress	pascal	Pa	1 Pa = 1 N/m ²



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